



Managing Serotonin Levels

The neurotransmitter most affected by Mephedrone use is serotonin, and it is the depletion of this 'happy' brain chemical that causes the low mood following use of the drug.

Serotonin is made in the brain from the amino acid tryptophan. A series of enzymatic processes convert tryptophan first into 5-HTP and then into serotonin. Serotonin is also the precursor for another important neurotransmitter, melatonin (a brain chemical that is vital for healthy sleep). It is therefore vital there is enough tryptophan available for these conversions to take place.

Unlike the amino acid tyrosine, which is the precursor for the closely related neurotransmitter dopamine, dietary sources of tryptophan can have significant effect on serotonin synthesis. It is therefore important to ensure adequate quantities of tryptophan are consumed. However, it isn't just a case of how much; similarly to tyrosine, the ability of tryptophan to crossover from the bloodstream to the brain depends on the ratio of tryptophan to the presence of other Large Neutral Amino Acids (LNAAs) and Branch Chain Amino Acids (BCAAs). These larger amino acids are more available than tryptophan in most high protein diets and are found in things like protein bars or shakes and bulking supplements.

Some research shows that the consumption of Alpha Lactalbumin, which has the favoured ratios of amino acids, is most beneficial for elevating available tryptophan, and subsequently the production of serotonin and melatonin.

There is also research to support taking 5HTP as a supplement for the elevation of serotonin.

The supplement 'Positive Outlook' by Higher Nature contains the relevant amino acids, the B-vitamins required for healthy cell functioning, and 5HTP, and may be useful in managing the hypo-serotonergic effects of Mephedrone use.

Serotonin Receptor Sites

One of the body's automatic systems to obtain balance is the ability to up-regulate and down-regulate the receptor sites for neurotransmitters. If the brain is awash with a certain neurotransmitter, it can down-regulate the receptors. Consistent elevated serotonin levels can cause the serotonin receptor sites to remain in this down-regulated 'hibernation'. In this instance, the elevated levels of serotonin (whether from Mephedrone or nutritional supplements) will not have the desired effect.

Therefore, regular breaks from Mephedrone usage, and supporting healthy functioning of receptors is vital. Omega-3 Fatty Acids are an essential component of receptor sites.



Omega-3 Fatty Acids

► What are they? Omega-3s are a particular type of fat essential for many bodily functions, particularly brain and cell function. Our body cannot make these fats so it is essential we consume enough of them.



► How is it implemented? Omega-3 deficiency results in low brain levels of serotonin. This is likely due to the role Omega-3s play in receptor-functioning and the chemical pathway of serotonergic systems.

► How should I get it? Omega-3 is abundant in oily fish such as salmon, fresh tuna and mackerel. However, adequate levels are hard to achieve through diet alone, especially as our modern diets include plenty of other types of fats which alter the bodies ratios, lowering the percentage of Omega-3 fatty acids comparatively. Therefore, if your diet is low in oily fish or high in vegetable and meat fats, a good quality Omega-3 supplement is recommended.